Abstract of the Disclosure

The output monitor/control device is provided with: Mach-Zehnder circuit 104 that receives a light beam, branches the light beam into two light beams having a phase difference of 180°, and transmits each of the light beams, exhibiting a periodic optical transmittance-optical frequency characteristic a period of a frequency interval corresponding to a predetermined free spectral range; first and second photodiodes that each receive one of two light beams supplied from the Mach-Zehnder circuit; calculation circuit 108 that calculates a predefined discrimination formula for evaluating wavelength change of the light beam based on output currents of the photodiodes; and wavelength control circuit 111 that detects change in wavelength based on the calculation results by the calculation circuit and adjusts the wavelength to a set value. Mach-Zehnder circuit 104 is adjusted in advance such that wavelengths to be controlled are included in a wavelength range that corresponds to the frequency range in which the optical transmittance-optical frequency characteristics curve of the Mach-Zehnder circuit changes steeply. The use of the optical transmittance-optical frequency characteristic of a Mach-Zehnder circuit in a wavelength monitor/control device enables accurate application to a wide range of wavelengths.